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PATENT APPLN. NO. 10/743,746
RESPONSE UNDER 37 C.F.R. §1.111

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REMARKS

Claims 1, 5, 6, 12 and 13 have been canceled. Claim 4 has been amended to include the limitation of claim 6. Claim 7 has been rewritten in independent form, i.e., to include the limitations of original claim 4 from which original claim 7 depended. Claim 9 has been amended to recite a dependency on claim 4. Claim 11 has been amended to include the limitation of claim 13.

New claims 20 and 21 have been added to the application. These claims correspond to claim 9 but recite dependencies from claims 7 and 8, respectively.

Claims 4-10, 14 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4 and 9 are included in the rejection because of the recitation "and/or". Claim 9 is also included in the rejection because of the recitation "ordinary temperature". Claims 14 and 19 are included in the rejection as not reciting proper group language.

The rejected language in claims 4, 9, 14 and 19 has been deleted or amended as suggested by the Office. Removal of the 35

U.S.C. 112, second paragraph, rejection is believed to be in order and is respectfully requested.

Before discussing the prior art rejections of the claims, applicants note that the rejections as applied to claims 1, 5, 6, 12 and 13 are moot in view of the cancellation of these claims.

Claims 1, 4-12, 14-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshimoto et al., *Electrochimica Acta* 46 (2001) 1195-1200, "Ionic conductance of polymeric electrolyte consisting of magnesium salts dissolved in cross-linked polymer matrix with linear polyether" (hereinafter: "Yoshimoto 1"). Applicants understand the position of the Office to be that Yoshimoto 1 discloses an electrolyte for a nonaqueous electrolyte battery in which magnesium bistrifluoromethanesulfonimide is dissolved in an organic solvent. However, it is not entirely clear whether the Office is taking the position that the solvent is propylene carbonate or a linear polyether (or both).

Amended claim 11 includes the limitation of original claim 13 which is not rejected over Yoshimoto 1. Therefore, the rejection of claim 11, and claims 14 to 16 and 19 dependent therefrom, over Yoshimoto 1 has been overcome.

Amended claim 7 recites an ammonium salt as a solvent. Yoshimoto 1 does not disclose ammonium salts as a solvent.

Therefore, Yoshimoto 1 does not disclose each and every element of claim 7.

With respect to amended claim 4, Yoshimoto 1 does not disclose the combination of $\text{Mg}[(\text{CF}_3\text{SO}_2)_2\text{N}]_2$ (magnesium bistrifluoromethanesulfonimide) and the organic solvent recited in claim 4. Yoshimoto 1 merely discloses the combination of $\text{Mg}[(\text{CF}_3\text{SO}_2)_2\text{N}]_2$ and polymers, and does not disclose that $\text{Mg}[(\text{CF}_3\text{SO}_2)_2\text{N}]_2$ is dissolved in a solvent such as propylene carbonate. Yoshimoto 1 discloses that "the substitution of PEGDE by the same amount of DMF increased conductivity significantly. As the DMF has high polarity and donicity, it may promote the dissociation of ions in the polymeric system." Therefore, DMF is not disclosed as a solvent. A feature of claim 4 is the combination of $\text{Mg}[(\text{CF}_3\text{SO}_2)_2\text{N}]_2$ and the organic solvent which can dissolve the magnesium salt.

Removal of the 35 U.S.C. 102(b) rejection of claims 1, 4-12, 14-16 and 19 is believed to be in order and is respectfully requested.

Claims 1 and 4-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Yoshimoto et al. *Electrochimica Acta* 48 (2003) 2317-2322, "Rechargeable magnesium batteries with polymeric gel electrolyte containing magnesium salts" (hereinafter: "Yoshimoto

2"). This rejection also appears to be based on a position of the Office that Yoshimoto 2 discloses an electrolyte for a nonaqueous electrolyte battery in which magnesium bistrifluoromethanesulfonimide is dissolved in an organic solvent.

The effective date of Yoshimoto 2 as a reference is its publication date of June 30, 2003. This date is between the U.S. filing date, December 24, 2003, of the present application and the filing date, December 27, 2002, of Japanese Patent Application No. 2002-381184, on which priority under 35 U.S.C. § 119 is claimed in the present application.

Attached hereto is an English translation of JP 2002-381184 (hereinafter: JP '184), and a statement regarding the accuracy of the translation. Claims 1 to 6 of JP '184 correspond to claims 1 to 5 and 7 of the present application. Claim 6 of the present application is disclosed in paragraph [0011] of the specification of JP '184. Claims 9 and 10 of the present application are disclosed in paragraphs [0001], [0008] and [0016] of JP '184. Amended claims 4, 7, 8, 9 and 10 and new claims 20 and 21, all of which are based on original claims 1 and 4 to 10 of the present application, are supported by the disclosure of JP '184. Therefore, submission of the English translation of priority

application JP '184 perfects applicants' claim to priority and overcomes the rejections based on Yoshimoto 2.

Removal of the 35 U.S.C. 102(a) rejection of claims 1 and 4-10 is believed to be in order and is respectfully requested.

Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshikawa et al., U.S. 2003/0127129 (hereinafter: "Yoshikawa"). This rejection appears to be based on a position that Yoshikawa discloses an electrolyte for a nonaqueous electrolyte battery in which magnesium bistrifluoromethanesulfonimide is dissolved in a room temperature molten salt.

Amended claim 4 includes the limitation of original claim 6 which has not been rejected over Yoshikawa. Claim 1 has been canceled. Therefore, the rejection over Yoshikawa has been overcome.

Removal of the 35 U.S.C. 102(e) rejection of claims 1 and 4 is believed to be in order and is respectfully requested.

Claims 1, 4-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaura et al., U.S. Patent No. 6,426,164 (hereinafter: "Yamaura") in view of Armand, U.S. Patent No. 5,072,040 (hereinafter: "Armand"). The Office's position in this rejection appears to be that Yamaura discloses an electrolyte for

a nonaqueous electrolyte battery in which a magnesium salt is dissolved in an organic solvent except that Yamaura does not disclose magnesium bistrifluoromethanesulfonimide as the magnesium salt. Armand is cited as teaching the obviousness of using magnesium bistrifluoromethanesulfonimide as a salt in a liquid electrolyte.

Regarding the combination of Yamamura and Armand, most Mg salts are insoluble in an organic solvent. Therefore, even if Li salt is soluble in a specific solvent, Mg salt is not necessarily soluble in the same solvent. In Armand, Li salts and Mg salts are prepared, but only Li salts are used to prepare electrolyte solutions. Mg salts are not used to prepare electrolyte solutions.

As noted above, a Li salt and a Mg salt are not necessarily soluble in the same solvent. Therefore, even if the Li salt disclosed in Yamamura is soluble in the solvent of Yamamura, the Mg salt disclosed in Armand is not necessarily soluble in the solvent disclosed in Yamamura.

As a result, a person of ordinary skill in the art would not have been able to reasonably predict good results from using the salt of Armand in the solvent of Yamamura and the combination of Yamamura and Armand is insufficient to support a case of *prima*

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facie obviousness of claims 1, 4-16 and 19 under 35 U.S.C. § 103(a).

Removal of the 35 U.S.C. 103(a) rejection of claims 1, 4-16 and 19 is also believed to be in order and is respectfully requested.

The foregoing is believed to be a complete and proper response to the Office Action dated February 1, 2007.

In the event that this paper is not considered to be timely filed, applicants hereby petition for an appropriate extension of time. The fee for any such extension may be charged to our Deposit Account No. 111833.

In the event any additional fees are required, please also charge our Deposit Account No. 111833.

Respectfully submitted,

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Attachments: English Translation of Priority Application JP
2002-381184 and Translator's Statement